



SAFETY SOLUTION EXPERTISE

INNOVATIVE FIRE PREVENTION
SOLUTIONS SECURE YOUR PRODUCTION



TAILORED FIRE PREVENTION SOLUTIONS FOR EVERY REQUIREMENT

ENGINEERED FIRE PREVENTION FOR INDUSTRIAL PRODUCTION SYSTEMS

Over 30% of companies suffering losses due to fire face bankruptcy! Insurance cover rarely protects against the negative effects of delivery problems due to fire or covers all the financial, operational, and reputational consequences of the resulting damage. Preventive fire protection is therefore an indispensable investment to safeguard the future of your company. Take advantage of GreCon's expertise!

GreCon has significant expertise in fire prevention: for over 45 years our fire prevention solutions have protected more than 250,000 industrial sites and a range of production processes across many different industries. Take advantage of our expertise to engineer the right solution for your production.

EARLY INTERVENTION

We aim to work as a partner alongside you to reduce fire risk and avoid personal injury and production losses due to fire damage. We follow two approaches:

EXTINGUISH BEFORE IGNITION

Sparks, glowing embers or generally highly mobile ignitable particles are identified by appropriate detectors and eliminated before any flame can be generated. This typically happens several times a day - without any disruption to your production process. We act before a flame develops.

MACHINE FIRE PROTECTION BY WATER MIST EXTINGUISHING

With this innovative protection solution, the finest water mist suffocates the initial flames that occur. This avoids evacuations, such as those caused by CO₂ extinguishing, and reduces production interruptions to a minimum. It also enables fires in oil pans to be extinguished quickly and efficiently with water.

02/03

THERE FOR YOU WHEN YOU NEED US



04/05

FLEXIBILITY IS OUR STRENGTH

We engineer the right solution from a technical and commercial viewpoint from our comprehensive portfolio of detector types, control units and protection systems. We benefit from the expertise of experienced, long-standing partners to guarantee an optimal implementation of technical fire and explosion protection systems.

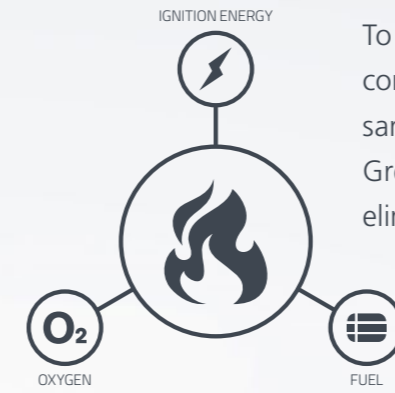
International certifications not only provide safety, they also increase the acceptance of authorities and insurance companies. We work with you to plan and deliver a smooth project.

If required, we can support you from the concept planning through the commissioning and up to the acceptance of the system. Afterwards we ensure your system availability through a range of individual service modules.

Our worldwide service network guarantees short distances and fast response times. Our GreCon expertise is available to you 24 hours a day, 7 days a week via our SATELLITE remote support system.

Take advantage of GreCon's expertise to reduce your fire risk and protect your employees, systems and ultimately your company. Our system reacts before damage is caused.





To produce a fire, these components must coincide at the same time and the same space. GreCon spark extinguishing systems eliminate ignition energy.

06/07

EXTINGUISHING WITHOUT INTERRUPTING PRODUCTION

QUICKLY AND UNNOTICED BEFORE A FIRE BREAKS OUT

The GreCon fire prevention system detects and eliminates dangerous ignition sources before a fire breaks out or a dust explosion occurs. Wherever organic or inorganic bulk materials are suctioned off or transported pneumatically or mechanically, the fire extinguishing system detects any dangerous ignition sources. It renders them harmless before they can cause significant fire damage in the filter systems, silos or other downstream areas of the plant.

OPERATING PRINCIPLE

Infrared detectors monitor the conveying paths and activate high speed water extinguishing systems within milliseconds, where necessary. The GreCon system can effectively avoid any carryover of the ignition energy. The extinguishing processes take place in the background, usually without interrupting production.

PROVEN SECURITY

GreCon spark extinguishing systems have been a standard component of fire prevention technology for decades. They reduce the risk of fire and explosion and increase the availability of the production plant.



MACHINE FIRE PROTECTION QUICK AND EFFICIENT

INSTALLED DIRECTLY BY THE OBJECT TO BE PROTECTED

Malfunctions, machine damage or foreign bodies in the production process are a high fire risk, often associated with long production downtimes. The water mist extinguishing system, which is VdS certified for press extinguishing, reduces these consequences for example, thanks to its early reaction to incipient fires. The modular design of the system makes it possible to adapt to your production process individually.

OPTIMAL EARLY FIRE DETECTION

Fast, fail-safe infrared detectors are the best means of monitoring objects to be protected. These detectors also allow large areas to be monitored. Spark detectors with fibre-optic technology or with high temperature adapters are used in closed areas where detection is difficult or in particularly demanding areas. If necessary, we can combine these detectors with other detector technology, for example to record the temperature, combustion gas or smoke. This ensures that incipient fires are detected at an early stage and can be fought in a targeted and effective manner.

ROBUST AND EFFICIENT

Special nozzles generate a fine water mist that not only cools, but also suppresses the supply of oxygen. The fine water mist evaporates in the high process temperatures, displacing the existing oxygen. This chokes the fire. Especially robust valve stations provide for the water supply.

Due to the permanent availability of the water directly from the extinguishing nozzles - depending on the specific application - the efficiency of the system is greater than with conventional systems as the extinguishing water reaches the fire source in less time. Special nozzles have been developed specifically for use in the preventive fire protection. They have proved their efficiency in numerous fire tests. In addition to water, quenching gas (CO₂, argon, nitrogen) or foam are also used as extinguishing media.

Water damage and the length of production interruptions are minimised by a specific intervention of the preventive fire protection system. Specially developed maintenance accessories facilitate quick and easy maintenance.

INNOVATION IS PART OF OUR DNA

10/11

WE DEVELOP INNOVATIVE FIRE PREVENTION SOLUTIONS

The name GreCon is synonymous with the development of spark detection. The most sensitive detector available on the market, the patented Ultra-High-Speed solution and the first touch centre for user-friendly control of the spark extinguishing system are just some of the technological milestones in our development history.

COMMITMENT TO RESEARCH AND DEVELOPMENT

Since the introduction of the spark extinguishing technology in the early seventies, we have invested in research and development each year to retain our position as market leader. We also have an eye to the future by continuously developing our know-how and investing in scientific research projects.

INTENSIVE APPLICATION TESTS

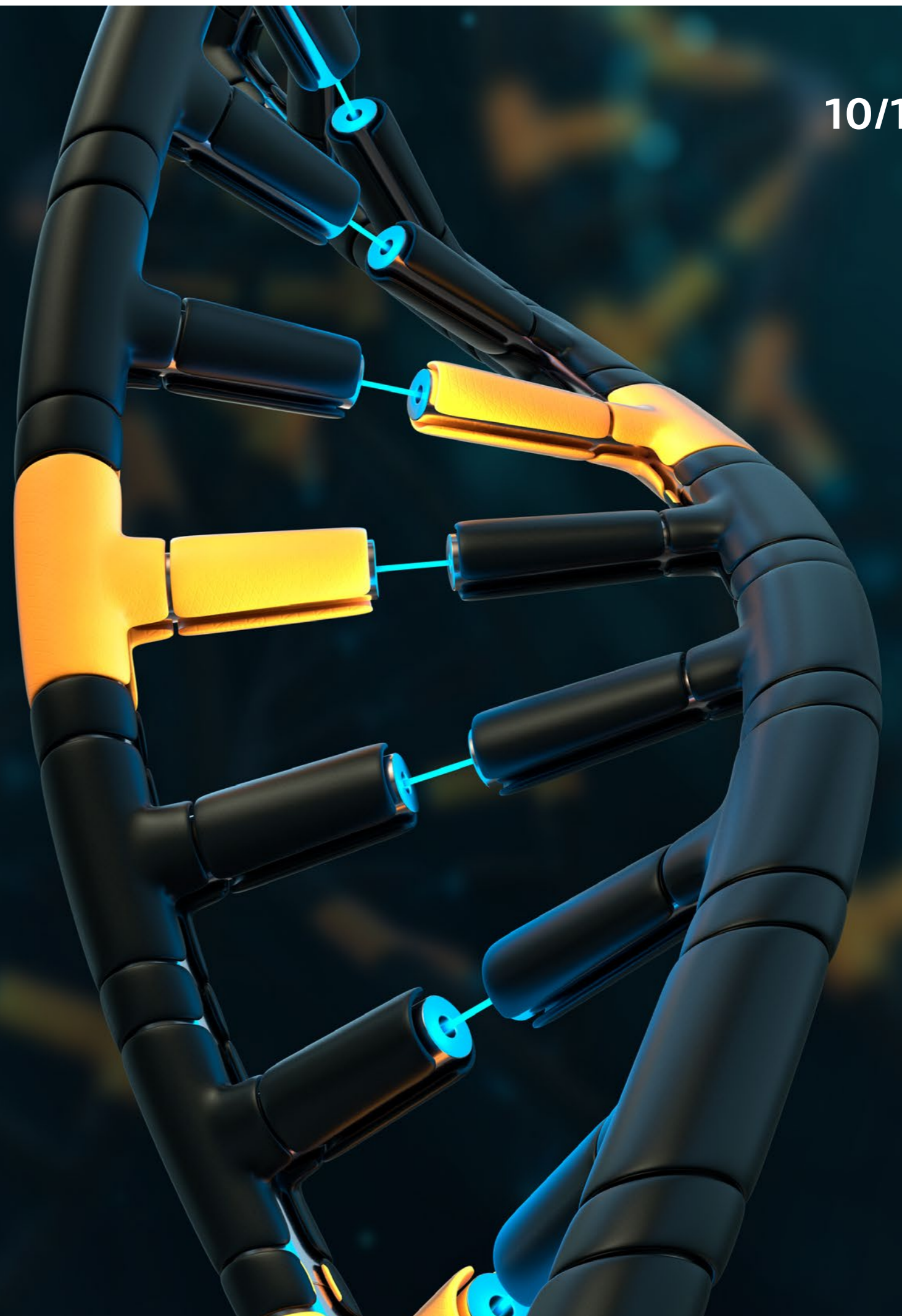
Our new designs undergo comprehensive internal and external tests before market launch. We simulate demanding, complex application situations on our in-house testing ground. An important module to ensure that only robust and reliable components are used in our products.

EXPERIENCED APPLICATION ENGINEERS

For over forty years we have continuously increased our expertise and skills. We develop protection solutions for typical applications such as filters, transport conveyors, dryers, mills or presses from a range of industries. The experience we gain is then systematically implemented in new development projects. The intensive exchange between research and application consultation forms the basis for generating sustainable problem solutions.

FOCUSSED KNOWLEDGE TRANSFER

We train your personnel on our products. Either locally, at your premises or in our Academy or on our testing ground.





WORKING TOGETHER TO PROVIDE SMOOTH PROCESSES

EXPERTS AT WORK

One Team - We work with you initially to assess the risk potential of your production process. Afterwards, we prepare a protection solution tailored to your needs based on these results. You determine the share of your own involvement in implementation and we take care of the rest. We remain at your disposal as a committed partner – from support during installation to turnkey commissioning. As part of our professional planning of your protection solution, we ensure that local and country-specific rules and regulations are considered.

ALWAYS AT YOUR SIDE

You can also rely on us after installation. Our modular service offers enable us to compile a service package tailored to your needs: 24/7 – availability around the clock with the SATELLITE digital service platform, service agreements for maintenance and service work or regular verifications of the protection solution in terms of safety vulnerabilities (for example due to changes in production conditions or different legal requirements). We will be delighted to support you with these service offers to maintain the reliability of your fire prevention solution.

ONGOING TRAINING

The benefits of ongoing training and having experienced and qualified employees are clear. On request, we train your team on the safe handling of the GreCon plant in the GreCon Academy. Our own team attends regular training programs to keep up to date with respect to product knowledge and the latest regulations and provisions. Our aim is to inspire you with reliable products and excellent service! Put us to the test!



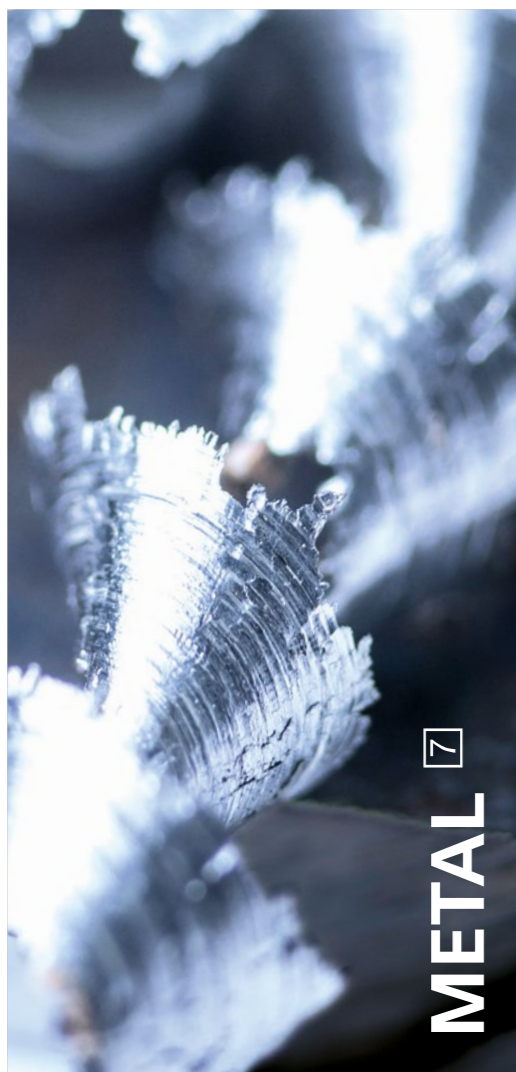
INDUSTRY EXPERTISE

DIFFERENT PROCESSES - SIMILAR RISKS

Since almost all materials are combustible in crushed form, the risk of fire and explosion is high in many production processes. The risks are similar - but require individual and targeted protection solutions for each industry. Customised GreCon fire protection solutions ensure the highest production availability for the widest range of requirements and industries.

- 1 Production processes such as the shredding of wood into chips, fibres or veneers as well as the drying and pressing of combustible materials into wood-based materials present numerous fire risks. Sparks, glowing nests or glowing particles generated in the plant can trigger fires and explosions with serious consequences.
- 2 In the food industry, flammable substances such as coffee, cocoa, tea, flour, cereals, dried vegetables, dried fruit and sugar are processed in large quantities. The dusts produced during processing pose major fire risks.

- 3 The pet food produced in the animal feed industry is predominantly provided in the form of easy-to-process pellets. Manufacturing processes such as drying and grinding the mostly combustible materials and pressing them into pellets carry numerous fire risks.
- 4 The manufacturing process of nonwovens (flow materials) requires extensive preparation of the combustible raw material, which consistently leads to the creation of dangerous ignition sources. The various flow consolidation processes pose further fire risks.
- 5 The thermal energy released by burning biomass, coal or other fuels drives generators mechanically, resulting in conversion to electrical energy. However, this type of energy conversion chain carries major fire risks.
- 6 In glass production, all raw materials, such as sand, lime and soda, are liquefied by adding a large amount of energy. The glass melting tank as well as the distribution of the portioned glass quantity to the tools represent a constant and major fire risk.



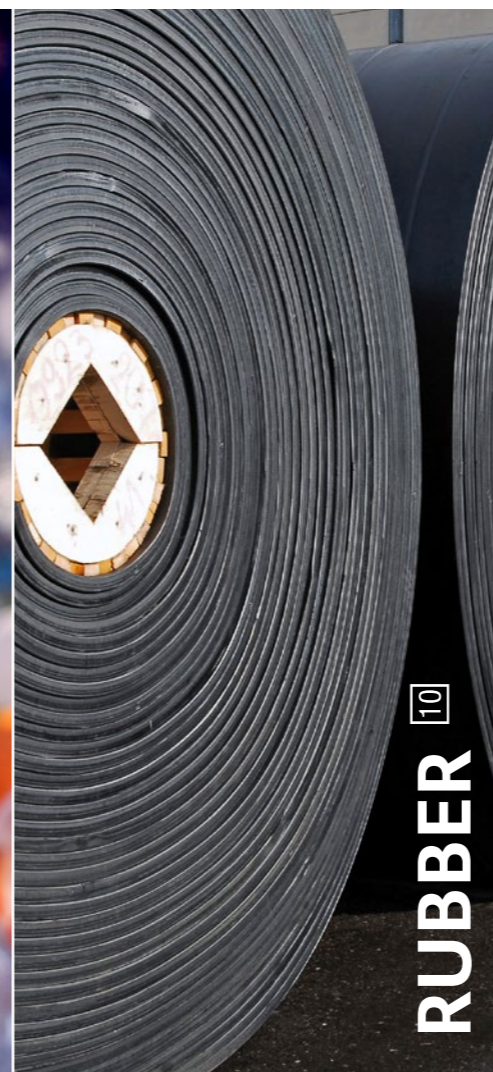
METAL ⁷



PAPER ⁸



RECYCLING ⁹



RUBBER ¹⁰



TOBACCO ¹¹



TEXTILE ¹²

INDUSTRY EXPERTISE

DIFFERENT PROCESSES - SIMILAR RISKS

- ⁷ High temperatures and flying sparks are unavoidable during metal processing. However, overheated parts and smouldering fires can also occur during manufacturing and processing. Processing operations such as grinding, casting or hardening, and even deposits in the raw pipes themselves, can lead to devastating fires.
- ⁸ In particular, the subsequent processing of paper after removal from the paper machine carries numerous fire risks. Sparks and glow nests generated by machine processing can easily ignite the dry and therefore highly combustible paper.
- ⁹ During mechanical processing, sparks and smouldering nests can occur due to overheating and foreign substances. Due to the proportion of undesirable components such as gas cartridges, lighters or batteries, there is a high risk of fire in every process step.

- ¹⁰ Dust produced during the mechanical processing of rubber materials, for example the shredding of used tyres, is highly flammable. The high vibration process poses an additional challenge to the detection technology.
- ¹¹ Tobacco processing produces highly flammable dusts. Combined with high temperatures, this poses a permanent fire hazard. GreCon fire protection solutions safeguard the dryers, extraction systems and transport systems.
- ¹² The production of textiles from natural or artificial materials involves a large number of risks. For example, sparks, glowing nests and overheated parts can occur along the entire production chain. GreCon fire protection solutions safeguard your mixing plants, separators or filter systems.

GreCon fire prevention systems can be used flexibly. Just contact us if your application is not listed here. We will find a solution.



THIS IS WHAT OUR CUSTOMERS SAY

18/19

PARTNERSHIP CREATES TRUST CUSTOMER OPINIONS

Developing innovative protection concepts for ever changing requirements. For example, when we manage to extinguish an incipient fire in oil pans by water mist extinguishing within seconds with water, thereby minimising production disruption. Cooperation with leading universities in the field of basic research. Thorough testing of new components prior to market launch. The continuous extension of our worldwide sales and service network. Significant, above-average investment in research and development.

All this for one goal: we aim to inspire our customers!

KIRSCHAUER TEXTIL

Daniel Münzberg, Managing Director

“Since we installed the spark extinguishing systems, we had two events in our company where the system detected sparks and extinguished them automatically. This confirms that investing in preventive fire protection was the right decision.”

JELU

Hubert Ehrler, Technical Manager

“We protect all areas that are potentially at risk with spark extinguishing systems. We have been able to reduce the fire risk significantly. GreCon spark extinguishing systems eliminate 99 to 99.5% of all fires in advance.”

PELZ GROUP

Matthias Kelch, Head of Facility Management

“We regularly come up against incidents which can quickly be made harmless thanks to the GreCon spark extinguishing system. We extinguish the first spark - there is no compromise in terms of safety.”

MARTIN BAUER GROUP

Konrad Ohlmann, Production Manager

“We are one of the largest producers of tea worldwide. Glowing nests that cause fires or dust explosions can occur during mechanical processing. We can't afford a loss of production; that's why we work with Fagus-GreCon.”

PIONEERING SPIRIT, PASSION AND INNOVATION

We are more than just a company, we are a community where pioneering spirit and passion for excellence are our driving forces. Our employees are the key to our success, and our customers are our partners on the path to outstanding solutions.



In 1911, Carl Benscheidt founded Fagus GmbH for the production of shoe lasts and punching tools. His great-grandsons Ernst and Gerd Greten integrated the companies GreCon-Anlagenbau and GreCon-Elektronik. Numerous inventions originate from this merger, including shoe lasts for the right and left foot; measuring technology to record thickness, surface characteristics or the weight by X-ray; the industrial spark extinguishing system.

Today's Fagus-GreCon Greten GmbH & Co. KG is a family business in its fifth generation. Fagus has stood for precision and fit for over 100 years and is an established partner for the international shoe industry. GreCon has been supplying sophisticated solutions for a wide range of applications in various industries in the "fire protection" and "measurement technology" sectors for 50 years. Thanks to numerous innovations and the commitment of our more than 700 employees worldwide, we have been able to establish ourselves as a leading international partner for our customers in each of these areas.

The UNESCO World Heritage Fagus Factory is a special fourth business unit as a cultural enterprise within an industrial setting. In 2011, the building complex at the Alfeld site was listed as the "UNESCO World Heritage Fagus Factory". The Fagus factory built in 1911 as the first building of the architect and founder of the Bauhaus, Walter Gropius, is considered the origin of the modern era of architecture.

Fagus-GreCon Greten GmbH & Co. KG

Hannoversche Straße 58 . 31061 Alfeld . Germany

+49 5181 790 . info@fagus-grecon.com

www.fagus-grecon.com